L 11998-65
ACCESSION NR: AP4048397

3

The difference between the critical impurity concentrations at which dislocations disappear in crystals, observed between P and As on one side and Sb on the other, may simply be due to different atomic radii. "The authors thank D. B. Shlyakova for her help in this work, and to S. P. Grishina for supplying the samples." Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: Gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut redkometallicheskoy promyshlennosti, Moscow (State Scientific Research and Design Institute for Rare-Metal Industry)

SUBMITTED: 16May64 ENCL: 00

SUB CODE: SS NR REF SOV: 001 OTHER: 007

Card 3/3

L 7907-66 EWT(m)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) JD/HW

ACC NR: AP5025776 SOURCE CODE: UR/0363/65/001/009/1449/1453

AUTHOR: Mil'vidskiy, M. G.; Osvenskiy, V. B.; Stolyarov, O. G.

ORG: Giredmet

TITLE: The effect of impurities on the plastic deformation of single crystals of silicon

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 9, 1965, 1449-1453

TOPIC TAGS: silicon single crystal, plastic deformation, crystal impurity, activation energy

ABSTRACT: The investigations were made on single crystals of silicon without dislocations, grown by the Czochralski method. The pure single crystals had an impurity concentration of $5 \times 10^{14}/cm^3$; those alloyed with arsenic, $4 \times 10^{19}/cm^3$; and those with aluminum, $5 \times 10^{17}/cm^3$. The temperature dependence of the upper yield point of these crystals was investigated at a constant relative deformation velocity $v_0 = 6.5 \times 10^{-4}$ sec. An exponential relation of the following form was found:

Card 1/2 UDC: 546.28:548.55

L 7907-66

ACC NR: AP5025776

$$v_0 = B\sigma^n \exp\left(-\frac{U}{kT}\right),$$

where v_0 is the relative deformation veloctiy; B and n are constants; U is the activation energy of the process; k is the Boltzmann constant. The article gives a curve showing the dependence of the upper yield point of the crystals on the relative deformation velocity, at a constant temperature of 825 C. It follows from the experimental results that alloying with a donor impurity decreases the activation energy and somewhat increases the constant n, while an acceptor impurity has the opposite effect. The effect of donor and acceptor impurities on the plastic deformation of single crystals of silicon can be explained by the change in the equilibrium concentration of vacancies in alloying; this causes a p-type electron reaction within the semicondutors. Orig. art. has: 6 formulas, 2 figures, and 1 table

SUB CODE: SS, MM, IC/ SUBM DATE: 17Mar65/ ORIG REF: 003/ OTH REF:018

nw

Card 2/2

L 10855-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/GG

ACC NR: AP5028719 SOURCE CODE: UR/0363/65/001/011/1898/1900

AUTHOR: Mil'vidskiy, M. G.; Osvenskiy, V. B.; Stolyarov, O. G.

ORG: Giredmet

TITLE: Study of the initial stage of deformation of gallium arsenide single crystals

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 11, 1965, 1898-1900

TOPIC TAGS: gallium arsenide, crystal deformation, yield stress, crystal dislocation, tellurium

ABSTRACT: A study was made of the behavior of n-type GaAs single crystals subjected to a uniaxial compression in the <111> direction at a constant rate, and the dependence of the "yield point jog" of the compression curves on the temperature and deformation rate was investigated. All the crystals were doped with tellurium to a carrier concentration of 6×10^{16} cm^{-3}, and the deformation was carried out on a relaxometer in spectroscopically pure helium at 410-460°C. The temperature-time dependence of the upper yield point of GaAs was found to be in good agreement with the kinetic theory of dislocations. The activation energy of motion of dislocations U and the kinetic constant n for GaAs were determined. The value of U is approximately 1.6 ev, which is less than the corresponding values for silicon and germanium. It is conclud-

Card 1/2 UDC: 546.681'193:548.55

L 10855-66

ACC NR: AP5028719

ed that impurities affect the plastic properties of the crystals, particularly the "yield point jog." Orig. art. has: 2 figures.

SUB CODE: 20,11/ 07/ SUBM DATE: 22Feb65/ ORIG REF: 004/ OTH REF: 006

HW

Card 2/2

MIL'VIDSKIY, M.G.; OSVENSKIY, V.B.; STOLYAROV, O.G.; SHLYAKOVA, D.B.

Dependence of the microhardness of single crystals of silicon on the density of dislocations and the concentration of impurities. Fiz. met. i metalloved.20 no.1:150-151 Jl '65. (MIRA 18:11)

1. Nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti, Moskva.

MIL'VITSKIY, M.G.; OSVENSKIY, V.B.; STOLYAROV, O.G.

Initial stage of the deformation of gallium arsenide single crystals. Izv. AN SSSR. Neorg. mat. 1 no.11:1898-1900 N '65. (MIRA 18:12)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti, Moskva. Submitted February 22, 1965.

L 32044-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6013336 SOURCE CODE: UR/0363/66/002/004/0585/0588

AUTHOR: Mil'vidskiy, M.G.; Osvenskiy, V.B.; Stolyarov, O.G. 44

ORG: Giredmet B

TITLE: Effect of doping on the creep of single-crystal silicon

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 585-588

TOPIC TAGS: silicon single crystal, creep

ABSTRACT: The creep of single-crystal silicon was studied on dislocation-free and doped samples grown by Czochralski's method. The initial period of creep corresponding to the diffusional displacement of the dislocation nucleus is adequately described by a cubic parabola in both types of samples. Moreover, an exponential dependence of the initial period of creep and rate of steady creep on the magnitude of the applied stress is observed. The creep of single-crystal silicon doped with a donor impurity is higher, and that of silicon doped with an acceptor impurity is lower than the creep of pure single-crystal silicon. When pure and doped samples of single-crystal silicon are loaded a second time, their creep increases. A decrease of the initial period of creep and increase of the rate of steady creep are observed. The authors thank V.V. Khongulov for

Card 1/2 UDC: 546.48

Card 2/2

L 32052-66 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/AT

ACC NR: AP6013342 SOURCE CODE: UR/0363/66/002/004/0636/0642

AUTHOR: Vekilov, Yu. Kh.; Mil'vidskiy, M.G.; Osvenskiy, V.B.; Stolyarov, O.G.; Kholodnyy, L.P. 51 B

ORG: Giredmet

TITLE: Effect of doping and illumination on the microhardness of semiconductor single crystals

SOURCE: AN SSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 636-642

TOPIC TAGS: gallium arsenide, hardness, semiconductor single crystal

ABSTRACT: The microhardness of n- and p-type GaAs single crystals was studied as a function of the carrier concentration, illumination with white light, crystallographic orientation, and magnitude of the load on the indenter. It was shown that doping of GaAs with a donor or acceptor impurity causes a decrease in microhardness, as in the case of Si and Ge. It was established that both the concentration effect and the illumination effect in the semiconductor single crystals studied are surface effects and are observed to a depth of a few microns. The results are explained by the peculiar properties of the surface of semiconductors and are attributed to the presence in the transition layer of

Card 1/2 UDC: 537.311.3

Card 2/2 UC

ACC NR: AP6015477 SOURCE CODE: UR/0181/66/008/005/1539/1544

AUTHOR: Sazhin, N. P.; Mil'vidskiy, M. G.; Osvenskiy, V. B.; Stolyarov, O. G.

ORG: State Scientific-Research and Design Institute of the Rare Metals Industry, Moscow (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti)

TITLE: The influence of alloying on the plastic deformation of gallium arsenide single crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1539-1544

TOPIC TAGS: acceptor, plastic deformation, alloying, gallium arsenide crystal, electron donor, single crystal structure, crystal dislocation

ABSTRACT: The authors investigate the influence of alloying by donor and acceptor admixtures on the behavior of GaAs during plastic deformation. The single crystals were obtained by the method of oriented crystallization and had the properties indicated in Table 1. An analysis of the results obtained shows that it is necessary to take into consideration several factors. These include the elastic and the electrical interaction of the dislocations with the admixtures, the possible structure of dislocations which determine their mobility, the interaction of the dislocations with the vacancies, and the influence of the admixtures on the equilibrium concentration

Card 1/2

ACC NR: AP6015477

Table 1

Properties of GaAs Crystals

Type of Conductivity	Alloying Admixture	Concentration of Current Carriers, cm^{-3}
n	—	$6.0 \cdot 10^{16}$
n	Te	$1.7 \cdot 10^{17}$
n	Te	$7.0 \cdot 10^{17}$
n	Te	$1.6 \cdot 10^{18}$
n	Te	$6.8 \cdot 10^{18}$
p	Zn	$1.0 \cdot 10^{19}$
p	Zn	$1.2 \cdot 10^{19}$

of charged vacancies. The last two factors, apparently, play the determining role in the determination of the influence of the donor and the acceptor admixtures on the mechanical properties of elementary semiconductors. However, in the case of semiconductive compounds the influence of the concentration of vacancies on the motion of dislocations is not determining, whereas the mobility of dislocations is primarily determined by their structure and interaction with the admixtures. The authors express their gratitude to V. I. Nikitenko for discussing the results and for his comments. Orig. art. has: 3 figures, 2 formulas, and 2 tables.

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REF: 027/ OTH REF: 013

Card 2/2 blr

STOLYAR, [illegible]

[illegible] for repairing air-blast switches. Energetik, 13 no.9:28 [illegible] (MIRA 18:9)

[illegible]

[illegible] refractory material plants. Met. i [illegible] no.5:44-46 (MIRA 18:7)
[illegible]

15055

STOLYAROV, S.

USSR/Wood Products 4412.0800 Sep 1947
Banking 4908.0100

"Problems in Financing Lumber Industry," S. Stolyarov, V. Loginov, 3 pp

"Sov Finansy" Vol VIII, No 9

Special problems relating to financing lumber industry. One problem is that of advancing credit to enterprises during long period between cutting and processing, during which time there might be considerable change in price set on lumber. This results in loan operations in form of advances which are not always warranted. Among enterprises criticized for such operations were: Novgorodles Combine, Kirles, Olavvostles, Sverdles, Krasles (Krasnoyarsk).

15055

LC

SOV/2-58-11-7/19

AUTHOR: Stolyarov, S.

TITLE: Some Questions on Price Statistics and Price Formation (Nekotoryye voprosy statistiki tsen i tsenoobrazovaniya)

PERIODICAL: Vestnik statistiki, 1958, Nr 11, pp 34-42 (USSR)

ABSTRACT: In the socialist national economy, prices are considered to be an important instrument of systematic planning. By means of the price mechanism the socialist State distributes and redistributes the national income and the total national product, controls the economic life, secures the necessary balance in the development of the national economy, and utilizes the principle of the material incentive of workers. In 1956, the Government established at the USSR TsSU, and later on at the RSFSR TsSU, special departments of price statistics and price fixing. The Soviet price policy is directed towards a systematic price reduction by increasing the labor productivity and by reducing production costs and distribution expenses. There is 1 table.

Card 1/1

SAPOZHNIKOV, M.Ya.; BANIT, F.G.; STOLYAROV, S.A., redaktor.

[Repair and assembling of equipment in plants of the building materials industry] Remont i montash oborudovaniia zavodov promyshlennosti stroitel'nykh materialov. Izd.2., perer.i dop. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1953. 506 p. (MLRA 7:6)

(Machinery—Maintenance and repair) (Building materials)

STOLYAROV, S.A.

SAPOZHNIKOV, Matvey Yakovlevich; BULAVIN, Ivan Anisimovich; KANTOROVICH, Z.B., professor, dokter tekhnicheskikh nauk, retsenzent; ZUBKOV, V.A., dotsent, kandidat tekhnicheskikh nauk, retsenzent; RASSKAZOV, N.I., kandidat tekhnicheskikh nauk, dotsent, retsenzent; SIDENKO, P.M., kandidat tekhnicheskikh nauk, retsenzent; KOZULIN, N.A., professor, dokter tekhnicheskikh nauk, retsenzent; STOLYAROV, S.A., redakter; GURVICH, B.A., redakter; LYUDKOVSKAYA, N.I., tekhnicheskiy redakter.

[Machines and apparatus used in the silicate industry] Mashiny i apparaty silikatnoi promyshlennosti; obshchii kurs. Izd.2-oe, dop. i perer. Moskva, Gos.izd-vo lit-ry po stroitel'nym materialam, 1955. 423 p. (MLRA 9:5)

(Clay industries)

SOV/95-59-3-10/14

14(2)

AUTHOR: Stolyarov, S.A., Engineer

TITLE: Movable Installation for Preparing Solution (Peredvizhnaya ustanovka dlya prigotovleniya rastvora)

PERIODICAL: Stroitel'stvo truboprovodov, 1959, Nr 3, pp 26-27 (USSR)

ABSTRACT: The Central Repair and Mechanical Workshops of the "Ukrgaz-neftestroy" turns out movable units intended for mechanization of plaster work. The unit is equipped with a small 15 kw power plant with an internal combustion engine, ensuring supply of power and light on construction sites. Through a pipe, plaster solutions, prepared by the unit, can be pumped into houses under construction. The general arrangement of the entire installation and the layout of the various component parts are shown on 2 diagrams. The unit is mounted on a trailer-type chassis which can be hauled at a speed of 20 km/hr. The solution mixer of the S-220 type has

Card 1/2

Movable Installation for Preparing Solution SOV/95-59-3-10/14

a capacity of 150 liter with an hourly production of 3 cu m. The unit is attended by 2 men, one taking care of the power plant and the other of the mixer.
There are 2 diagrams.

Card 2/2

14(9) SOV/95-59-6-8/12

AUTHOR: Stolyarov, S.A., Engineer (Kiyev)

TITLE: Experience in Constructing Gas Pipeline Crossings Over Marshland and Wet Sections of the Route

PERIODICAL: Stroitel'stvo truboprovodov, 1959, Nr 6, pp 22-23 (USSR)

ABSTRACT: The article describes two methods of laying a pipeline across flood land. In the first case a pipe section 600 m long was assembled, tested, cleaned and primed on dry land; it was then pulled and pushed in position alongside the trench which had previously been excavated by excavator E-505. Having been insulated on specially prepared wooden supports, the pipe section was lowered into the trench by means of pipe laying machines located either on a dike, formed by bulldozers or on a log road. Weights were placed over the pipeline by pipe laying machines or excavators. In the second case under similar conditions the work of laying a triple track was done differently. Complete assembly of the pipe section including reinforced insulation was done by mechanical means on the bank of the river. With the aid of 9 pipe laying machines the pipe section was then lifted up, moved toward the opposite bank and

Card 1/2

SOV/95-59-6-8/12

Experience in Constructing Gas Pipeline Crossings : Over Marshland and West Sections of the Route

directed into the trench. Thus 3 tracks consisting of 529 mm pipes in lengths exceeding 600 m were laid. To keep the pipes at the bottom of the trench 100 half ton loads had to be placed on top. This was done by means of a 25 mm cable suspended across the river. Two pipe laying machines served to control the tension of the cable and to move the loads in position as shown on the Diagram. The second method proved by far more efficient than the first one and permitted completing the job in record time.

There are 2 diagrams.

Card 2/2

33203. Poyennaya Ila ta I Zadachi Lesozagotoviteley. Les. Prom-St', 1949 no. 10, c. 18-19

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

STOLYAROV, Sergey Grigor'yevich; PRIVEZENTSEVA, A.G., red.; PYATAKOVA, N.D., tekhn.red.

[On prices and price determination in the U.S.S.R.; statistical-economic studies] O tsenakh i tsenoobrazovanii v SSSR; statistiko-ekonomicheskie ocherki. Moskva, Gosstatizdat TsSU SSSR, 1960. 74 p. (MIRA 13:6)

(Prices)

STOLYAROV, [illegible] Grigor'yevich; MAKSYUKOVA, V.N., red.; PYATAKOVA, M.D., tekhn. red.

[Prices and price determination in the U.S.S.R.; essays in statistics and economics] O tsenakh i tsenoobrazovanii v SSSR; statistiko-ekonomicheskie ocherki. Izd.2., dop. i pe-rer. Moskva, Gosstatizdat, 1963. 215 p. (MIRA 17:3)

STOLYAROV, G.D., inzh.; STOLYAROV, S.K., inzh., otv. red.;

[Handbook on the Mi-1 helicopter] Spravochnik po vertoletu Mi-1. Moskva, Transport, 1965. 167 p. (MIRA 18:12)

1. Russia (1923- U.S.S.R.) Ministerstvo grazhdanskoy aviatsii.

SLAVINA, N.P.; STOLYAROV, S.M.

The Second International Symposium "Hardness Measurements in Industry". Izm.tekh. no.6:60-61 N-D '55. (MLRA 9:3)
(Bremen--Hardness--Congresses)

PHASE I BOOK EXPLOITATION SOV/4346

Ukazatel' instruktsiy, metodicheskikh ukazaniy i pravil; po poverke mer i izmeritel'nykh priborov; na 1/I 1959 g. (Index of Instructions, Standard Methods, and Rules; For Checking Measures and Measuring Instruments; 1 Jan 1959) Official ed. [Moscow] Standartgiz, 1959. 63 p. Errata slip inserted. 15,000 copies printed.

Resp. Ed.: S. M. Stolyarov; Ed. of Publishing House: M. I. Kuznetsova; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: This official index of instructions is intended for persons and institutions dealing with measures and measuring instruments.

COVERAGE: The booklet indexes instructions, standard methods, and rules for checking measures and measuring instruments. Also included are modifications of instructions, effective as of 1 Jan 1959. No personalities are mentioned. There are no references.

Card ~~1/4~~

SOV/115-59-7-31/33

25(1), 28(2)

AUTHOR: Stolyarov, S.M.

TITLE: The New State Standard "Electrical Measuring Instruments. General Engineering Specifications" (GOST 1845-59)

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 7, pp 63-64 (USSR)

ABSTRACT: The Vsesoyuznyy nauchno-issledovatel'skiy institut elektroizmeritel'nykh priborov -VNIIEP- (All-Union Scientific Research Institute of Electrical Measuring Instruments) developed the new standard GOST 1845-59 "Electrical Measuring Instruments. General Technical Specifications", which was approved by the Komitet standartov, mer i izmeritel'nykh priborov (Committee of Standards, Measures and Measuring Instruments) and which supersedes the old GOST 1845-52. The author explains the most essential differences between the old and the new standard. The latter deals not only with instruments for measuring electrical magnitudes but also with electrical measuring instruments used as secondary devices for measuring non-electric magnitudes by electrical methods. Thus, GOST 2261-43 "Electrical Instruments for Thermal Engineering Measurements. General Specifications," was cancelled. The field of

Card 1/3

SOV/115-59-7-31/33

The New State Standard "Electrical Measuring Instruments. General Engineering Specifications" (GOST 1845-59)

alternating current instrument application was extended from 10 to 20,000 cycles. Accuracy classes 0.05 for electrical instruments and 0.02 for auxiliary parts were introduced. The error ratio of the reference gage and the instrument to be checked was increased from 1:3 to 1:5. Temperature limits of electrical measuring instruments were extended from -60 to +65°C. Two new instrument groups were introduced concerning mechanical strength. One group comprises instruments with ordinary mechanical strength while the other group consists of instruments with higher mechanical strength. Portable and panel instruments of the latter group must sustain maximum accelerations of 50 m/sec^2. Selfrecording instruments must sustain 10 m/sec^2 at an impact frequency of 80-20 impacts per minute. Vibration tests must last at least 15-30 minutes. The requirements for vibration-proof instruments was increased from 70 m/sec^2 to 200 m/sec^2. The new standard comprises electrical measuring instruments of 18 systems while there were only 10 systems in GOST 1845-52. The accuracy requirements for

Card 2/3

SOV/115-59-7-31/33

The New State Standard "Electrical Measuring Instruments. General Engineering Specifications" (GOST 1845-59)

all classes were increased. The new standard was supplemented by two appendixes: A short list of basic terms with definitions and a list of legend designations and symbols to be applied on instruments and auxiliary parts. In this way it was possible to cancel standard GOST 2939-4[illegible] in the section of "Legends". The requirements of the new standard are in agreement with international recommendations concerning indicating electrical measuring instruments. For a number of parameters higher requirements are prescribed than in the international recommendations, especially concerning the influence of temperatures and magnetic fields, balancing, etc. All listed requirements are introduced in GOST 1845-59 and will provide an essential improvement of the accuracy and reliability of measuring instruments and increase considerably the measuring range and consequently the field of application of the GOST.

Card 3/3

33830
S/141/61/004/006/017/017
E032/E114

9,9000 (1046, 1109, 1327)

AUTHORS: Bolotovskiy, B.M., and Stolyarov, S.N.

TITLE: Fresnel formulae for a moving separation boundary between two media

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, v.4, no.6, 1961, 1171-1172

TEXT: Previous workers are said to have discussed the interaction of electromagnetic waves with moving objects without allowing for the refracted wave which carries off a fraction of the incidence energy. This problem is of interest in view of the suggested use of reflection of EM-waves from boundaries moving with relativistic velocities for the production of microwaves. Another possible application is the experimental "sounding" of moving objects such as particle beams, plasma condensations, and so on. The present authors are therefore concerned with the case where the separation boundary and the media on either side of it move with an equal velocity $\underline{u}$ which is normal to the boundary. They suppose that a monochromatic plane wave is incident on the separation boundary and show that the amplitudes of the reflected

Card 1/3

33230

Fresnel formulae for a moving ... S/141/61/004/006/017/017
E032/E114

The dispersion relation used in the derivation of the above formulae is assumed to be

$$\frac{\omega^2}{c^2} - k^2 + \frac{\chi}{c^2}\frac{(ku - \omega)^2}{1 - u^2/c^2} = 0 \qquad (2)$$

and the boundary conditions are those given by Landau and Lifshits in "The electrodynamics of continuous media". It is stated that Eqs. (7) and (8) may also be obtained by applying the Lorentz transformation to the Fresnel formulae for a stationary boundary.

There are 5 references, 3 Soviet-bloc and 2 non-Soviet-bloc. The English language references read as follows:

Ref 2 M A. Lampert, Phys. Rev., v.102, 299 (1956).
Ref 3 K Landecker, Phys. Rev., v.83, 832 (1952)

ASSOCIATION: Fizicheskiy institut im. P.N. Lebedeva AN SSSR (Physics Institute imeni P.N. Lebedev AS USSR)

SUBMITTED April 29, 1961

Card 3/3

STOLYAROV, S.N.

Interaction of electromagnetic waves with the moving interface of two media. Izv. vys. uchab. zav.; radiofiz. 5 no.4:671-678 '62. (MIRA 16:7)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR.
(Electromagnetic waves)

33904
S/089/62/012/003/001/013
B102/B108

24.1720
26.2357

AUTHORS: Ado, Yu. M., Belovintsev, K. A., Stolyarov, S. N.

TITLE: Bremsstrahlung spectrum of 260-Mev electrons

PERIODICAL: Atomnaya energiya, v. 12, no. 3, 1962, 193 - 197

TEXT: The bremsstrahlung spectrum of 260-Mev electrons from the synchrotron of the FIAN was measured on a simple arrangement with a 15-channel gamma pair spectrometer of a total dispersion of $3.3 \cdot 10^{-2}$. The efficiency of gamma-quantum recording was $8.25 \cdot 10^{-6}$, radiation intensity was equal to $1.2 \cdot 10^{7}$ Mev/cm^2·sec. Experimental error was 5%. The experimental results were compared with the calculated number of photons $N^{\gamma}(t,k)$ of energy k at a depth t in the target, which in first approximation (error 2 - 3%) is

Card 1/8

33964
S/089/62/012/003/001/012
B102/B108

Bremsstrahlung spectrum of...

$$N^{\gamma}(t,k) \propto N_0(0,E_0)\sigma_T(k,E_0)k^{-\alpha}\Big\{1+$$
$$+t\Big[0{,}50-0{,}306+0{,}722I_1(\eta)+$$
$$+0{,}722\frac{k}{E_0}\Big(\Big(1+\ln\frac{E_0}{k}\Big)\ln\ln\frac{E_0}{k}+1\Big)\Big]\Big\}. \quad (3)$$

where $I_1(\eta)=\int t\ln t\,dt$.

(3).

The bremsstrahlung cross section $\sigma_T(E,k)\simeq 1/k$; $\eta = \ln(E_0/k)$; $n_0^{\gamma}(t,\eta) = \int_0^t e^{\alpha t'}W(t',\eta)dt'$. E_0 is the energy of the primary electrons. When multiple photon emission is taken into account, agreement between theory and experiment is improved. The spectrum distortion owing to the collimator effect does not exceed 2%. The material (foil, air, window) through which the gamma ray passes has an influence on the spectrum only in the low-energy range. The discrepancy between experiment and Schiff's theory (Phys. Rev., 83, 252 (1951)) is due to multiple phonon emission from one electron. Professor P. A. Cherenkov is thanked for discussions, Engineer V. P. Piskov and Technician Yu. I. Krutov for help. There are 3 figures

Card 4/4

and 14 references: 4 Soviet and 10 non-Soviet. The four most recent references to English-language publications read as follows: J. Lawson Nucleonics, 10, 61 (1952); R. O'Rourke, A. Anderson. Phys. Rev., 99, 1484 (1955); L. Eyges. Phys. Rev., 81, 982 (1951); R. Wilson. Proc. Phys. Soc., A66, 638 (1953).

SUBMITTED: July 14, 1961

Fig. 2. Experimental results compared with results from Schiff's theory and Eq. (3) (curve 2). For curve 1 a correction was made for spectrometer dispersion only, for curve 2 multiple phonon emission was taken into account. E_0 = 260 Mev, target (tungsten) thickness 0.15 radiation units. Abscissa: E_γ, Mev, ordinate: radiation intensity, arbitrary units.

S/057/62/032/005/004/[illegible]
B102/B104

AUTHOR: Stolyarov, S. N.

TITLE: Movement of a charge in a waveguide which is partially filled with a dielectric arranged in parallel to its axis

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 5, 1962, 541-548

TEXT: The author considers the flight of a charge along a waveguide which is assumed to be lined with a dielectric. The charge is assumed to fly parallel to the tube axis in an absolute vacuum. The field of the single charge is determined, and its Cherenkov radiation investigated. The energy losses of the charge are estimated, and the coherent losses of a cluster of particles passing through such a waveguide determined. The fundamental calculations, carried out in a cylindrical coordinate system (r,z,φ), are analogous to those of L. S. Bogdankevich and B. M. Bolotovskiy (Ref. 1: ZhETF, 32, 6, 1421, 1957). For the total losses of an electron to Cherenkov radiation one obtains

(e.

Up to
(Nuovo

an elect
spectrum
are a min
are consid

• by Ashel
'o = 0, i.e., for
-enkov-radiation
-on to Ref. 1, the losses
-ollowing, two approximations

Card 1/3

Card 2/3

ACCESSION NR: AP4017043 S/0141/63/006/006/1268/1271

AUTHOR: Stolyarov, S. N.

TITLE: Some distinguishing features of radiation field of a charged particle in a moving medium

SOURCE: IVUZ. Radiofizika, v. 6, no. 6, 1963, 1268-1271

TOPIC TAGS: electrodynamic potential, moving charge, charge in moving medium, electric potential magnetic potential, Cerenkov radiation, transition radiation, refractive index, Doppler shift, dispersive medium

ABSTRACT: In view of recent practical applications of Cerenkov and transition radiation to the experimental study of relativistic charged particle beams or clusters, and also to some problems in radiophysics, the author derives equations for the electric and magnetic potentials of a charged particle in a medium with arbitrary

Card 1/2.

ACCESSION NR: AP4017043

relative velocity. The dispersive properties of the medium and the Doppler frequency shift are also taken into account. An isotropic electron plasma is considered as an example. It is shown that to calculate the electromagnetic fields of the charge and the energy radiated by the charge per unit time it is sufficient to calculate the potentials of the charge for its motion along a limited path segment. "In conclusion, the author thanks B. M. Bolotovskiy for useful remarks and advice." Orig. art. has: 7 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 01Apr63	DATE ACQ: 18Mar64	ENCL: 00
SUB CODE: PH	NO REF SOV: 005	OTHER: 000

Card 2/2

L 9922-63 EWG(k)/BDS/EWT(1)/EEC(b)-2/ES(w)-2--AFFTC/ASD/ESD-3/
AFWL/SSD--Pz-4/Pi-4/Pab-4/Po-4--AT/IJP(C)
ACCESSION NR: AP3000012 S/0057/63/033/005/0565/0570

81
79

AUTHOR: Stolyarov, S. N.

TITLE: Reflection and refraction of electromagnetic waves at moving interfaces.

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 5, 1963, 565-570

TOPIC TAGS: reflection and refraction, electromagnetic waves, interface effects, plasma diagnostics

ABSTRACT: Fresnel's equations for the reflection and refraction of plane electromagnetic waves at a sharp interface between two media are obtained for the case in which the media are in relative motion. Essentially new effects appear when the velocity of the boundary is comparable with that of light in the media. The treatment is phenomenological, each medium being characterized by its dielectric constant and magnetic permeability, and the results are expected to be applicable to plasma diagnostics and to relativistic beams of charged particles. The results are given in detail for the case in which the relative velocity of the two media is normal to their interface. This case may be realized at a shock

Card 1/3

L 9922-63
ACCESSION NR: AP3000012

2

front involving a density discontinuity. An expression is given for Brewster's angle in the case when neither medium is magnetic and the dielectric constant of one is unity. The case in which the relative velocity of the two media lies in their boundary plane is complicated by the absence of symmetry with respect to the plane of incidence. The results are given only for the special case when one of the media is vacuum. A rotation of the plane of polarization occurs, and there are angles of zero reflection both for waves polarized in the plane of incidence and for waves polarized normally thereto. It is pointed out that an isotropic medium becomes optically anisotropic when moving. The term "convective spatial dispersion" is suggested for this phenomenon. A dispersion relation applicable to a moving isotropic electron plasma is written and conditions are found for the penetration of electromagnetic waves into a moving plasma. It is found that a plasma moving at relativistic velocities is almost transparent to high-frequency fields. "In conclusion, the author takes this occasion to express his gratitude to B. M. Bolotovskiy for valuable discussions." Orig. art. has: 18 equations.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moskva (Physical Institute, AN SSSR)

Card 2/3 2

ACCESSION NR: AP4042925 S/0057/64/034/008/1396/1400

AUTHOR: Stolyarov, S.N.

TITLE: Motion of a charged particle along the axis of a channel filled with a moving dielectric

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.8, 1964, 1396-1400

TOPIC TAGS: particle accelerator, Cerenkov radiation, dielectric, moving plasma

ABSTRACT: V.I.Veksler (Atomnaya energiya 2,427,1957) has employed the formula of I. Ye.Tamm (J.Phys.USSR 1,439,1939) for the energy loss of a charged particle moving in a dielectric medium to estimate the accelerating force exerted on a moving charge by a moving dielectric. This formula requires relativistic corrections when the velocities of both the particle and the dielectric are large. These corrections have been given for an infinite medium by B.M.Bolotovskiy and S.N.Stolyarov (Izv.VUZov,Radiofizika 7,No.1,1964). In the present paper they are derived for a bounded medium. Specifically, the rate of energy loss is calculated for a charged particle moving with velocity v on the axis of a dielectric cylinder which is moving parallel to its axis with velocity u_1 through a second infinite dielectric medium which, in turn, is

ACCESSION NR: AP4042925

moving with velocity u_2 parallel to the axis of the cylinder. The result is given in the form of a definite integral and is said to be the same as the rate of energy loss of a charged particle moving with velocity $(v-u_1)/(1-u_1v/c^2)^{1/2}$ through a dielectric cylinder at rest, except that the particle gains rather than loses energy if $u_1 > v$. The frequency spectrum is distorted by Doppler effect, however, and the condition for Cerenkov radiation in the second medium is accordingly somewhat altered. The energy loss is evaluated in terms of modified Bessel functions for the case of a charged particle moving in a metallic waveguide (at rest) containing a moving plasma. The rate of energy loss is also calculated for a charged particle bunch in the shape of a finite cylinder moving axially in an infinite moving dielectric medium. It is suggested that the result may be useful for calculating the acceleration of charged particle bunches or plasmoids. Orig.art.has: 28 formulas.

ASSOCIATION: Fizicheskiy institut im.I.P.Lebedeva AN SSSR, Moscow (Physics Institute, AN SSSR)

SUBMITTED: 10Nov63 ENCL: 00

SUB CODE: EM,ME NR REF SOV: 005 OTHER: 000

L/4

BOLOTOVSKIY, B.M., STOLYAROV, S.N.

Radiation principle in the electrodynamics of moving media. Izv. vys. ucheb. zav.; radiofiz. 7 no.3:442-445 '64. (MIRA 17:11)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.

SOURCE CODE: UR/0020/66/160/001/0072/0075

ACC NR: AP6015086

AUTHOR: Livshits, B. Ya.; Stoyarov, S. N.; Tsikunov, V. N.

ORG: Institute of General and Inorganic Chemistry im. N. S. Kurnakov, Academy of Sciences SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: Effect of excitation diffusion on multiple-mode emission conditions

SOURCE: AN SSSR. Doklady, v. 160, no. 1, 1966, 72-75

TOPIC TAGS: laser optics, resonator, optic pumping, electromagnetic field

ABSTRACT: A general solution is given for a system of equations describing population inversion and the behavior of the electromagnetic field within a Fabry-Perot resonator [illegible] to excitation diffusion. The analysis is restricted to axial modes. An [illegible] derived for the maximum number of simultaneously emitted modes at high [illegible] emission. We thank Academician I. V. Obreimov for interest in this work. [illegible] more to formulas.

SUB CODE: 13/ SUBM DATE: 04Aug65/ ORIG REF: 002/ OTH REF: 003/

Card 1/1 VDC

STOLYAROV, S.S.

Growing Far Eastern perennial rice. Zhivotnovodstvo 24 no.6:52-54 Je '62. (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov.

STOLYAROV, S.

For Eastern rice in the shallows of bodies of water. Zemledelie 27 no.11:47-54 N '65. (MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653410005-6"

[illegible] V. A., Engineer

"Investigation of the Mechanical Properties of a Layer Obtained by Steel Spraying and Application of Metal Coating in the Repair of Locomotives." Thesis for degree of Cand. Technical Sci. Sub 28 Jun 49, Moscow Order of the Labor Red Banner Electromechanical Inst of Railroad Engineers imeni F. E. Dzerzhinskiy.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

28 (5)

AUTHORS: Ovsyannikov, B. M., Stolyarov, V. A., Timoshuk, L. T. SOV/32-25-8-32/44

TITLE: On the Influence of Geometrical Parameters of Conical Diamond-tips on the Measuring Results of the Hardness of Metal

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 996-998 (USSR)

ABSTRACT: The theoretically and experimentally conducted investigations (Refs 2-5) unequivocally point to the influence mentioned in the title on the metal-hardness tests according to Rockwell (MHR). As up to the present there has not been found a functional correlation between the parameters of a standardised test and the constants characteristic of the material, the theoretical explanations are based on various assumptions. Some explanations of this kind are mentioned as G. P. Zaytsev (Ref 2) and (Ref 3) with the corresponding data (Table 1) and explanations of the Vsesoyuznyy institut metrologii im. Mendeleyeva (All-Union Institute of Metrology imeni Mendeleyev) and the NIIVESPROM. The last-mentioned institute investigated the influence of the curvature radius (R) of the conical diamond tips (DT) on the (MHR). The obtained diagrams (Fig 1) show that a continuous increase of the Rockwell hardness rating can be observed with the

Card 1/2

On the Influence of Geometrical Parameters of Conical SOV/32-25-8-32/44
Diamond-tips on the Measuring Results of the Hardness of Metal

increase of the (R) (Table 2). On especially prepared test-tips (TT) of hard alloy, the influence of the end angle-degree of the (TT) on the results of the (MHR) was tested and it was established (Fig 2, Table 3) that better results are obtained if at a deviation of the (R) of the ρ from the nominal value and an increase of the deviation of the angle α at the (TT)end cause a decrease of the α. It is indicated that if at the manufacture of the (DT) the tolerance limits of the main dimensions (α = ± 10-30' and R = ± 0.005-0.010 mm) are being observed, a considerable decrease of the systematic error can be achieved,as well as the gauging of the testing instruments can be made much easier. There are 3 figures, 3 tables, and 5 references, 2 of which are Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute ofFerrous Metallurgy)

Card 2/2

S/119/60/000/012/005/015
B012/B063

AUTHOR: Stolyarov, V. A.

TITLE: Application of Strain-gauge Measurement in Weighing

PERIODICAL: Priborostroyeniye, 1960, No. 12, pp. 11-13

TEXT: NIKIMP has designed various devices with load-measuring units some of which are described here. A pickup with strain gauges is the main part of these devices. First, the mode of operation of these pickups and the demands made on them are explained. A load-measuring unit with a helical strain element, a column-type load-measuring unit for 50 tons (error of ±0.5% at 20±5.0°C), and an automatic electric crane weighing machine of the type ЭКВ-60А (EKV-60A) for 60 tons (error of ±0.5%) are shown in figures. The Odesskoye konstruktorskoye byuro ispytatel'nykh mashin (Odessa Design Office for Test Machines) has designed and built scales with load-measuring units for 5, 10, and 15 tons. Furthermore, automatic scales with load-measuring units of the type ЭВН-60 (EVN-60) for petroleum filling stations, scales with load-measuring units of the type ЭАВ (EAV) for trucks of the type ГАЗ-51 (GAZ-51), and automatic scales

Card 1/2

MAL'NEV, A.F., KREMENCHUGSKIY, L.S.; BEREZKO, B.N.; SHEVTSOV, L.N.; BOGDEVICH, A.G.; KIRILLOV, G.M.; CHASHECHNIKOVA, I.T.; YARMOLENKO, N.A.; OFFENGENDEN, R.G.; SERMAN, V.Z.; DALYUK, Yu.A.; BEREZIN, F.N.; KONENKO, L.D.; SHALEYKO, M.A.; SHEVCHENKO, Yu.S.; STOLYAROV, V.A.; KIRILLOV, G.M.; BOGDEVICH, S.F.; LYSENKO, V.T.; BRASHKIN, N.A.; SKRIPNIK, Yu.A.; GRESHCHENKO, Ye.V.; TUZ, R.M.; SERPILIN, K.L.; GAPCHENKO, L.M.

Abstracts of completed research works. Avtom. i prib. no.3:90-91 Jl-S '62. (MIRA 16:2)

1. Institut fiziki AN UkrSSR (for all except Skripnik, Greshchenko, Tuz. Serpilin, Gapchenko). 2. Kiyevskiy politekhnicheskiy institut (for Skripnik, Greshchenko, Tuz, Serpilin, Gapchenko).

(Research)

S/535/61/000/136/005/006
E191/E381

AUTHOR: Stolyarov, V.F., Engineer

TITLE: The vibration of an unbalanced rotor supported on bearings with elasticity and damping

SOURCE: Moscow. Aviatsionnyy institut. Trudy. no. 136. 1961. Nekotoryye voprosy issledovaniya kolebaniy v aviatsionnykh dvigatelyakh. 93 - 143

TEXT: In applying dampers to the rotating shaft of a gas-turbine engine, the difficulties arise in finding the vibration mode of the rotating shaft under the effect of external forces, in determining the vibration amplitudes of the shaft and in choosing the damper so as to achieve freedom from resonance in the operating-speed range. Damping is of particular importance in gas turbines for motor cars because of the high rotor speeds and the large ranges of speed and load. In contrast to earlier work, the present paper attempts to develop the quantitative relationships and an engineering method of computation for vibration amplitudes of a rotating shaft supported on an arbitrary

Card 1/3

S/535/61/000/136/005/006
E191/E381

The vibration of ....

number of bearings without limitation on the number of discs and with due consideration of the mass of the shaft and gyroscopic effects. Both viscous and dry-friction dampers are considered. First, a rotor on two bearings and an arbitrary number of discs is discussed, provided with viscous dampers. Then dry-friction dampers are substituted. In view of the complexity of the analysis in this case, analytical solutions are possible only for certain specific conditions, namely, when either the unbalance or the damping or both are present only in one disc or bearing, respectively. The methods of analysis make use of the concept of dynamic flexibility. A numerical example is computed in detail. The practical conclusions arising from it are: a) for a single-disc system it is more appropriate to apply damping to the bearing nearest to the disc only; b) only within a speed range 5% each side of resonance is there any need to include damping in the computation of deflections; c) if the rotor operates in the region beyond resonance, the

Card 2/3

ACC NR: AP7011845 SOURCE CODE: UR/0144/66/000/012/1314/1317

AUTHOR: Polishchuk, A. I.; Stolyar, V. F.

ORG: none

TITLE: Metalloceramic magnets based on the products of mechanical processing of cast permanent magnets

SOURCE: IVUZ. Elektromekhanika, no. 12, 1966, 1314-1317

TOPIC TAGS: permanent magnet material, magnet, magnetic alloy, metalloceramic magnet / YUNDK-15 alloy

SUB CODE: 09,11

ABSTRACT: A special magnetic separator was used to separate the magnetic components from the products of mechanical working of permanent magnets. The content of the non-metallic fraction in the powders of the magnetic alloy after this separation does not exceed 2-2.5%. Screen analysis shows that the granulometric composition of these magnetic alloys is suitable without further fractionation for production of metalloceramic magnets. Pure cobalt, nickel, copper, etc., are added to the powders to bring the chemical composition up to that of type YUNDK-15 alloy; no more than 50% pure components need be added. After 10 hours in a cone mixer, the powders were pressed into the proper form with a pressure of 10 tons per square cm. The pressed magnets were then

Card 1/2 UDC: 621.318.3+669.018.15 0448

ACC NR: AP7011845

sintered in a hydrogen medium at 1280+10°C for three hours. After thermomagnetic treatment in a magnetic field of 250 ka/m intensity, the magnets were ready for use. The properties were equivalent to those of metalloceramic magnets made by ordinary methods. This process allows a considerable reduction in the cost of metalloceramic magnets. Orig. art. has: 2 figures and 3 tables. [JPRS: 40,450]

Card 2/2

REZNIKOV, Mark Yevseyevich, dotsent, kand.tekhn.nauk; STOLYAROV, V.G., retsenzent; DRUZHININSKIY, M.V., red.; MYASNIKOVA, T.F., tekhn.red.

[Aircraft and rocket fuels and lubricants] Aviatsionnye i raketnye topliva i smazochnye materialy. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 206 p. (MIRA 13:11)
(Airplanes) (Rockets (Aeronautics)--Fuel)

VISHNEVSKIY, Nikolay Yevgen'yevich; GLUKHANOV, Nikolay Parmenovich; KOVALEV, Ivan Sidorovich; STOLYAROV, V.I., retsenzent; MERKIN, G.I., kandidat tekhnicheskikh nauk, redaktor; CHERNOUSOV, N.P., inzhener, redaktor; GOFMAN, Ye.K., redaktor izdatel'stva; SOKOLOVA, L.V., tekhnicheskiy redaktor

[High pressure apparatus with hermetically sealed electric motors] Apparatura vysokogo davleniia s ekranirovannym elektrodvigatelem. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 178 p. (MIRA 9:8)

(Electric motors) (Machinery industry)

L 23495-65 EWT(m)/EPF(c)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Pu-4 IJP(c) JD/WW/JG
ACCESSION NR: AP5000500 S/0078/64/009/012/2779/2780

AUTHOR: Nisel'son, L. A.; Stolyarov, V. I.

B

TITLE: Relative volatility of zirconium tetrachloride and hafnium tetrachloride above their melting points

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 12, 1964, 2779-2780

TOPIC TAGS: zirconium hafnium relative volatility, Rayleigh equilibrium evaporation, zirconium tetrachloride, hafnium tetrachloride, rectification process

ABSTRACT: Determination of such volatility is important, since the rectification process starts at such temperatures. The authors undertook direct determination of relative volatility of a mixture of both tetrachlorides at about 450C i.e. 15C above the melting point of $ZrCl_4$ by means of Rayleigh equilibrium evaporation at a $HfCl_4$ concentration in the liquid phase of 0.15-0.30 mol.%. The equipment is figured and the procedure described; results are tabulated. Hafnium determination was conducted by spectral analysis after the zirconium tetrachloride had

Card 1/2

L 23495-65
ACCESSION NR: AP5000500

been transformed into the dioxide. The mean value from 4 parallel tests gave $\alpha_{ZrCl_4/HfCl_4} = 1.70 \pm 0.01$. Orig. art. has: 1 table and 1 figure

ASSOCIATION: None

SUBMITTED: 05Aug63 ENCL: 00 SUB CODE: IC, GC

NR REF SOV: 004 OTHER: 002

Card 2/2

L 01798-66 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/AM/JG

ACCESSION NR: AP5021497 UR/0370/65/000/004/0097/0104
669.2/.8.049.6.296.297

AUTHOR: Nisel'son, L. A. (Moscow); Stolyarov, V. I. (Moscow); Izhvanov, L. A. (Moscow); Korolev, Yu. M. (Moscow)

TITLE: Separating zirconium and hafnium by fractionating their tetrachlorides

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1965, 97-104

TOPIC TAGS: hafnium, zirconium, fractional distillation, metal purification

ABSTRACT: Mixtures of $ZrCl_4$ and $HfCl_4$ are experimentally separated by fractionation in metal columns with kilogram charges. The experimental equipment is shown in fig. 1 of the Enclosure. The results are tabulated and graphed. It was found that direct fractionation of the tetrachloride mixture is highly effective as a means for separating hafnium and zirconium. When the initial tetrachloride mixture contains 1.5-2.5% Hf, fractionation produces more than 50% Zr containing about 0.05% Hf. Up to 40% of the Hf in the original charge is concentrated in the head fractions with an average hafnium content of 20-25%. With initial hafnium contents of 16.6 and 13.5%, the maximum concentration of Hf in the head fractions of the

Card 1/3

L 01798-66

ACCESSION NR: AP5021497

distillate is 85.6 and 70.8% respectively. The experimental conditions produced a yield of 30-40 g/cm^2·hr. Orig. art. has: 4 figures, 5 tables.

ASSOCIATION: none

SUBMITTED: 25Jul64

ENCL: 01

SUB CODE: GC, MM

NO REF SOV: 007

OTHER: 002

Card 2/3

L 01798-66

ACCESSION NR: AP5021497 ENCLOSURE: 01

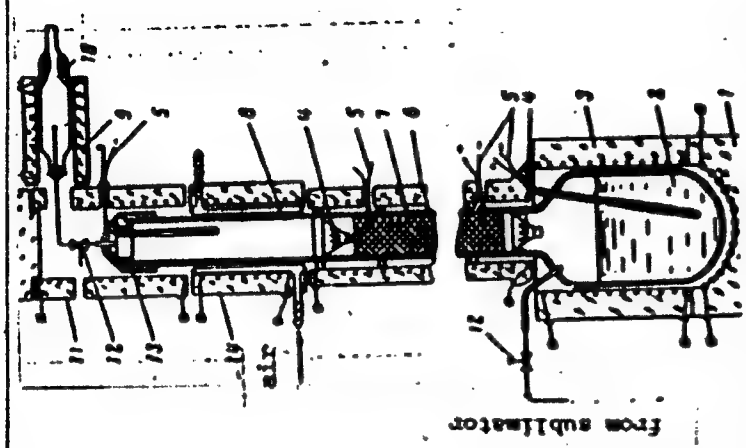

Fig. 1. Diagram of the fractionation column for separating a $ZrCl_4$-$HfCl_4$ mixture: 1--main electric heater for the still; 2--column still; 3--auxiliary electric heater for the still; 4--cone holding the packing; 5--thermocouples; 6--heat insulation for the column; 7--packing; 8--air-cooled sleeve for the fractionating column; 9--electric heater for the fraction receiver; 10--receiver for the hafnium fractions; 11--electric heater for the head section of the column; 12--needle valve; 13--head section of the fractionating column; 14--electric heater for the fractionating column

Card 3/3

[illegible]

[illegible] of the [illegible] alimentation, histological structure and the [illegible] of spread [illegible] cancer of the rectum and sigmoid in its recurrence. [illegible] 3:26-30 '65. (MIRA 18:6)

1. [illegible] (Chief. [illegible] Chemotherapy [illegible] Institute [illegible] AMN SSSR (dir. [illegible] AMN SSSR prof. A.I. [illegible]).

(MERA 2818)

L 30850-66 EWT(m)/EWP(t)/ETI IJP(c) WW/JD/JG

ACC NR: AP6014898 (N) SOURCE CODE: UR/0076/65/039/012/3025/3032

AUTHOR: Nisel'son, L. A.; Stolyarov, V. I.; Sokolova, T. D.

ORG: Moscow State Scientific and Design Institute for the Rare Metal Industry (Moscovskiy gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti)

49

B

TITLE: Properties of liquid zirconium tetrachloride

27

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 12, 1965, 3025-3032

TOPIC TAGS: zirconium compound, chloride, heat of vaporization, SURFACE TENSION

ABSTRACT: The zirconium tetrachloride used was the purest fraction, purified by rectification in a metallic packed column. The content of hafnium and other metallic impurities in the chloride was less than a hundredth of a percent. The temperature measurements were calibrated on zinc (m.p. 419.5°C) and were made with a Chromel-Alumel thermocouple using a type R2/1 semiautomatic potentiometer. Determination was first made of the temperature of the triple point; this was done from the cooling curve. Next, measurements were made of the pressure of the saturated vapors. Results are exhibited in tabular form. Measurements of the viscosity were made with a special viscometer (illustrated in the

UDC: 541.11

Card 1/2

L 4[illegible]-66

ACC NR: AP6014898

article). Finally, the surface tension was measured, and the results given in a table. Calculations were made of the critical pressure, the quasinormal boiling point, and the dependence of the heat of vaporization on the temperature. Orig. art. has: 10 formulas, 4 figures and 3 tables.

SUB CODE: /// SUBM DATE: 28Nov64/ ORIG REF: 009/ OTH REF: 010

Card 2/2

L 24194-66 EWT(m)/EWP(t) LJP(c) JD/JG

ACC NR: AP6013284 SOURCE CODE: UR/0413/66/000/008/0080/0080

INVENTOR: Epshteyn, A. L.; Izhvanov, L. A.; Koroley, Yu. M.; Stolyarov, V. I.; Pobedash, N. V.

ORG: none

TITLE: Method of extracting molybdenum from the gaseous phase. Class 40, No. 180800

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 80

TOPIC TAGS: molybdenum, molybdenum extraction

ABSTRACT: This Author Certificate introduces a method of extracting molybdenum from the gaseous phase with deposition of compact molybdenum on a heated substrate. To reduce the cost of extraction, molybdenum hexafluoride is used as the initial material. [ND]

SUB CODE: 13, 11/ SUBM DATE: 17Aug64/ ATD PRESS: 4245

Card 1/1 UDC: 669.283

STOLYAROV, V.M.

[illegible]

[illegible] Gorbov, I. A., Nedzelsky, I. M., [illegible], I. M., and Stolyarov, V. M.

Device for programmed metal hardening

[illegible] Zav'yalov Lizerat Riga, v. 2, no. 1, 1962, 102 - 1[illegible]

A device is been made for programming the level of similar [illegible] determining the effect of the loading rate on the material [illegible] in a vacuum of 10^{-5} mm Hg or in inert gases [illegible] loading rate can be increased from 10 g/mm² per hr to 5 kg/mm² per hr [illegible] rates of up to 50 kg/mm² per hr are possible. The maximum [illegible] The sample elongation (up to 4 - 5 mm with an error of [illegible] is measured with an optical strain gauge. Reduction of the [illegible] to values corresponding to diffusion hardening [illegible] total deformation and the rate of steady creep. The device (Fig. 1) [illegible] follows: Dynamometer spring (6) is compressed by the [illegible] gear (7). The charging rate is regulated by varying the [illegible] operation of the motor (8) (P&-0) (RD-09)-type) driving the gear

Card 1/3

Device for programmed metal hardening

(1). The sample is heated by a tubular furnace with molybdenum coil and the temperature is regulated by an MRA-12 (MRA-12) electronic potentiometer. There are 1 figure and 6 Soviet references.

[illegible] Electrotechnical Institute [illegible] Technical Institute of the Academy of Sciences USSR

Fig. 1. Diagram of device for programmed hardening.
Legend: (1) [illegible]; (2) and (3) thermocouples; (4) cross piece; (5) tube furnace; (6) dynamometer spring; (7) reducing gear; (8) motor; (9) [illegible] point; (10) indicator; (11) mains connection; (12) base plate; (13) vacuum chamber; (14) syphon; (15) limiter; (16) to pump.

Card 2/3

GARBER, R.I.; GINDIN, I.A.; STOLYAROV, V.M.; CHECHEL'NITSKIY, G.G.; CHIRKINA, L.A.

Apparatus for studying the damping of low-frequency torsional oscillations. Prib. i tekh. eksp. 8 no.3:172-174 My-Je '63. (MIRA 16:9)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.
(Oscillations--Electromechanical analogies)

STOLYAROV, V.P., kand.tekhn.nauk

Estimating the amount of moisture required for effective curing of concrete. Avt.dor. 21 no.6:6-7 Je '58. (MIRA 12:10)
(Concrete--Curing)

STOLYAROV, V.P., kand.tekhn.nauk; MATVEYEV, V.N., inzh.

Accounting for friction forces in the displacement of concrete pavement along the roadbed. Avt. dor. 25 no.2:23-24 F '62. (MIRA 15:2)

(Pavements, Concrete)

STOLYAROV, V.P.

Parasites of the Rybinsk Reservoir commercial fish during the first seven years of its existence. Trudy probl.i tem.sov. no.4:54-56 '54. (MIRA 8:7)

1. Leningradskiy sel'skokhozyaystvennyy institut.
(Rybinsk Reservoir--Parasites) (Parasites--Fishes)

STOLYAROV, V.P.

Dynamics of zooparasites of commercial fishes of Rybinsk Reservoir
Trudy Len. ob-va est. 72 no.4:160-189 '54. (MLRA 8:11)

1. Kafedra zoologii Leningradskogo sel'skogo sel'skokhozyaystvennogo instituta
(Rybinsk Reservoir--Fishes--Diseases and pests)(Rybinsk Reservoir--Parasites--Fishes)

STOLYAROV, V. P.: Do Biol Sci (diss) -- "Parasitic fauna of the fish in the Rybinsk Reservoir and the laws of its formation". Leningrad, 1959. 40 pp (Leningrad Order of Lenin State U im A. A. Zhdanov), 150 copies (KL, No 12, 1959, 127)

STOLYAROV, V. I.

"On the Focal Nature of the Development of Fish Parasites in the Lakes."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Leningrad State University and Leningrad Agricultural Institute

STOLYAROV, V.P.

Role of the parasitological factor in the population dynamics of plankton-feeding fishes of Rybinsk Reservoir and reservoirs of the middle Volga Valley. Zool. zhur. 39 no. 10:1578-1579 O '60. (MIRA 13:11)

1. Leningrad Agricultural Institute.
(Volga Valley--Parasites)
(Parasites--Fishes)

STOLYAROV, V.P.

Regular patterns and characteristics of the formation of the parasite fauna of fishes in reservoirs of lowland rivers in the European part of the U.S.S.R. [with summary in English]. Zool. zhur. 40 no.8:1125-1136 Ag '61. (MIRA 14:8)

1. Department of Zoology, Agricultural Institute of Leningrad. (Parasites—Fishes) (Reservoirs)

STOLYAROV, V.T.

"Mechanisms of the effects of afferent stimuli" by M.G.Durmish'ian. Reviewed by V.T.Stoliarov. Fiziol.zhur. 43 no.3:289-291 Mr '57. (MIRA 10:8)
(REFLEXES) (DURMISH'IAN, M.G.)

STOLYAROV, Veniamin Timofeyevich, brigadir; PAL', R.V., red.

[In the common formation of chemists] V obshchem stroiu khimikov. Ufa, Bashkirskoe knizhnoe izd-vo, 1964. 26 p. (MIRA 18:11)

STOLYAROV, V.V. (Rybinsk, Yaroslavskoy obl. Molodezhnaya ul., d.9, kv.11)

Osteosynthesis of bones of the forearm with metal clips. Ortop., travm.i protez. 22 no.4:65-66 Ap '61. (MIRA 14:11)

1. Iz travmatologicheskogo otdeleniya (zav. - V.V. Stolyarov) Bol'nichnogo gorodka g. Rybinska (glavnyy vrach B.G. L'vov).
(INTERNAL FIXATION IN FRACTURES) (ARM--FRACTURE)

STULYAKOV, V.Ye.; YAKOVLEVA, O.A

Publication of information of weather and climatic conditions contained in 23 to 25 tomes of the complete collection of Russian chronicles. Ist.i metod.est.nauk no.1:203-221 '60. (MIRA 14:10)

(Russia--Chronology, Historical) (Meteorology)

CA

2

Transfer phenomena in compressed gases. I. Determination of the heat-conductivity coefficients of compressed gases (hydrogen, nitrogen, air, methane, and carbon dioxide). R. A. Stalyarov, V. V. Ipat'ev, and V. P. Teplorevich (Inst. High Pressures, Leningrad). *Zhur. Fiz. Khim.* 24, 166-78(1950).—The heat cond. λ (10⁻⁴ cal./cm. degree) was detd. by measuring the temp. difference between a wire in a 0.6 mm. wide glass tube filled with compressed gas (pressure *P* kg./sq. cm.) and another wire wound around the tube, when the inner wire was heated by elec. current. The precision was 3%. The λ of air was, e.g., 622 at 1 kg./sq. cm. and 24°, 800 at 200 and 18°, and 1160, 1180, and 1170 at 600 kg./sq. cm. and 11, 84, and 198°. The λ of H_2 was at *P* = 1 4180, 4940, 6140, and 6720 at 16, 92, 200, and 298°; at *P* = 100 4290, 5000, 6120, and 7000 at 14, 108, 201, and 302°; at *P* = 200 4390, 5130, 6250, and 7220 at 20, 100, 204, and 300°; at *P* = 300 4600, 5300, 6340, and 7270 at 18, 108, 201, and 298°; at *P* = 400 4640, 5600, 6460, and 7360 at 17, 204, and 298°; and at *P* = 800 4840, 5800, 6780, and 7280 at 16.5, 108, 200, and 300°. The λ of N_2 was at the same pressures 598, 743, 850, and 991 at 16, 107, 200, and 298°; 676, 799, 924, and 1070 at 12.5, 103, 214, and 298°; 808, 911, 991, and 1151 at 15, 101, 214, and 298°; 1036, 1021, 1195, and 1352 at 13, 99, 202, and 302°. The λ of CH_4 at the same pressures was 818, 1000, 1130, and 1477 at 23, 84, 124, and 212°; 1000, 1206, 1402, and 1581 at 23, 113, 143, and 218°; 1441, 1811, 1991, and 1666 at 11, 66, 107, and 201°; 1770, 1661, 1886, 1718, and 1651 at 13, 65, 103, 142, and 197°; 2070, 1890, 1870, 1896, and 1910 at 13, 63, 101, 135, and 195°; and 2297, 2075, 1910, 1909, and 2096 at 12, 62, 100, 140, and 198°. The λ of CO_2 at 1 kg./sq. cm. was 307, 372, 500, 715, and 794 at 7.2, 57.3, 99, 175, and 212°; 428 at *P* = 20 and 37°; 430 at *P* = 20 and 20°; 766 at *P* = 100 and 20°; 2540, 1002, and 870 at *P* = 200 and 53, 106, and 194°; and 2153, 1330, and 1115 at *P* = 300 and 63, 164, and 193°. *P* increases λ first a little, then rapidly, and then gradually; and the *P* of the rapid rise increases with temp. For N_2, air, and H,

$$\lambda/\lambda_0 = 1.5\pi\theta - (0.5)^{\theta} \exp(\ldots) + 1,$$

λ_0 is λ at *P* = 1, and π and θ are reduced pressure and temp.

J. J. Bikerman

CA

Transfer phenomena in compressed gases. II. Empirical equation for the relation between the heat conductivity of compressed gases and temperature and pressure. N. A. Bankrapov (Inst. High Pressures, Leningrad). *Zhur. Fiz. Khim.* 26, 279-91(1952); *cf. C.A.* 46, 8811g.—From the earlier expts. and the literature data it is concluded that $\lambda/\lambda_0 = 1 + 4.5(P_1 - 0.8)^{1.50} T_1^{-0}$ and $\lambda_0 = AT^{3/2}/(T + B)$. λ is the heat cond. at the temp. T and reduced pressure P_1, λ_0 is the heat cond. at T and atm. pressure, and T_1 is the reduced temp. The consts. A and B depend on the gas, and the const. b depends also on P_1. In the equation $\lambda = P\eta C_v$ (η = viscosity and C_v = heat capacity at const. vol.) the quant. P has nearly theoretical values for all gases at 1 atm. from −200 to +200° and at high T at all pressures; at high pressures and low temps. P is smaller, showing that the mechanism of heat transfer is different. The Prandtl no. $\eta C_p/\lambda$ (C_p = heat capacity at const. pressure) is 0.72 for all gases at atm. pressure and is increased by pressure in the region of the crit. temp.; this increase shows that the mechanism of transfer becomes similar to that in liquids. I. J. Bikerman

C +

2

Transfer phenomena in compressed gases. III. An empirical equation of the relation of the viscosity of compressed gases to temperature and pressure. K. A. Sudarev (Inst. High Pressure, Leningrad). *Zhur. Fiz. Khim.* 26, 761-9(1953); cf. C.A. 46, 6904f. - The equation $\eta = \eta_0 + aT_r^b$, where η = the viscosity at T°K. and a given pressure P, η_0 = viscosity at T°K. and pressure = 1 atm., T_r is the reduced temp. of the gas, a and b are functions of the pressure and the nature of the gas, was applied to the data of numerous investigators for H, N, CO, CO_2, and air with good agreement. The coeffs. a and b had the values for CO_2 of $2.75P_{0.00}$ and $15.85P_{0.00} + 2.5$; for H, $P_{0.00}$ and $3.0P_{0.00}$, for N and air, $0.32P_{0.00}$ and 2.5; and for CO $0.6P_{0.00}$ and $3.4P_{0.00}$. η_0 can be detd. by extrapolation or according to Sutherland's function. The equation is valid up to T_r = 15.8 and P = 62. Paul W. Howerton

Lecture experiment for determination of thermal molecule velocities by the analytical balance. H. Bucka and U. v. Hanelberg (Univ., Jena, Oct 1. *Naturwissenschaften* 37, 183(1950). - Mol. crit velocity of a volatile liquid from a glass flask is detd. by weighing the flask open and closed. B. J. C. van der Hoeven

STOLYAROV, YE. A.; TOLS, C. N.

Styrene

Kinetics of styrene hydrogenation and determination of adsorption from solutions. Zhur. fiz. khim. 26 no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

Kinetics of hydrogenation of styrene with a "stationary catalyst." E. A. [illegible] and [illegible] T. Tuleu (State Inst. [illegible] [redacted] *Zhur. Fiz. Khim.* 27, [illegible] 47, [illegible] —The rate of hydrogenation of [illegible] at [illegible] 60° in the presence of [illegible] of [illegible] Also [illegible] tabulated and graphed. Diffusion of H is [illegible] with the stationary catalyst (I) [illegible] a powd. catalyst (II). In all other aspects the [illegible] mechanism is the same with I as with II.

J. W. Loeberg, Jr.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 3/35

Authors : Stolyarov, Ye. A., and Todes, O. M.

Title : Effect on composition and conditions of preparation of nickel-aluminum alloys on the properties of a skeletal catalyst obtained from these alloys

Periodical : Zhur. fiz. khim. 30/1, 23-27, Jan 1956

Abstract : The relation between the composition and preparation of Ni-Al alloys and the activity of skeletal Ni-catalysts obtained from such alloys was investigated. It was found that catalysts prepared from such alloys usually contain very little Al but are highly active. The catalytic activity of a skeletal Ni-Al catalyst was established by styrene hydrogenation and the quality of the alloy was determined by metallographic study. Twenty-one references: 17 Russ., 2 Eng. and 2 Germ. (1929-1952). Tables; illustrations.

Institution : State Institute of Applied Chemistry, Leningrad

Submitted : March 12, 1955

S/081/61/000/008/006/017
B110/B203

AUTHOR: Stolyarov, Ye. A., Loginova, M. V.

TITLE: Use of a nickel-aluminum alloy in pieces as a "stationary" catalyst. Communication II. Study of conditions of manifold leaching of a lump of nickel-aluminum alloy

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 8, 1961, 65, abstract 8Б511 (8B511) (Sb. tr. Gos. in-ta prikl. khimii, 1960, vyp. 46, 303 - 308)

TEXT: It was shown that the use of a surface-leached Ni-Al alloy as a "stationary" catalyst permits manifold leaching. This makes it possible to work with the same catalyst charge for a long time. For communication I see RZhKhim, 1954, no. 3, 14275. [Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653410005-6"

STOLYAROV, Yu.

Young Odessa technicians. IUn.tekh. 4 no.12:46-52 D '59. (MIRA 13:4)

(Odessa--Technical societies)

STOLYAROV, Yu.

Machine of the future. IUn.tekh. 4 no.6:61-62 Je '60.
(MIRA 13:9)

(Automatic control) (Laboratories) (Space flight to Mars)

81694

S/020/60/000/07/09/024
B013/B058

3.2000

AUTHORS: Stolyarov, Yu., Engineer, Tsaritsyn, G., Director

TITLE: Movable Laboratory "Luna - I"

PERIODICAL: Tekhnika molodezhi, 1960, No. 7, pp. 16-17

TEXT: The authors report on a lunar laboratory which was designed at the stantsiya yunykh tekhnikov Chelyabinskogo traktornogo zavoda (Station of Young Technicians of the Chelyabinsk Tractor Plant). Lyudmila Fokeyeva, Vladimir Syuremov, and Gennadiy Berezyuk, students of the mashinostroitel'nyy tekhnikum pri Chelyabinskom traktornom zavode (Technical College of Machine Building at the Chelyabinsk Tractor Plant), submitted their dissertation designs on the theme "Machine for the Investigation of the Lunar Surface" in 1958. Lyudmila Fokeyeva became head of the design office of the station after graduating from the Technical College. The young designers decided to put the design by Fokeyeva into practice and to build a model of such a machine. They were supported by the plant designers

Card 1/3

61684

Movable Laboratory "Luna - I" S/029/60/000/07/09/024
B013/B058

L. Krylovskiy, A. Kozlov, V. Leshenko, Yu. Kozlov, and S. Malyutin. The experienced designer V. M. Ryabov undertook the supervision. The design of a movable scientific research laboratory, developed in the course of two years which was named "Луна-I" (Luna-I) was now built in metal (Fig. p. 17). "Luna - I" is a complicated complex of automatic instruments mounted on a chassis. The undercarriage consists of four caterpillars driven by two independent electric motors. With the four caterpillars, the vehicle can also drive on loose ground, as is expected on the Moon. Sets of silver-zinc batteries are to serve as power sources, which are recharged by solar batteries. The machine is controlled from the Earth. In case of interruptions of the radio transmission, the machine can continue to work by the automatic pilot according to a preset program. The most varied instruments are on board of the vehicle. A drilling device for taking samples is housed in the body. Two manipulators lift the sample in front of the instrument which is mounted on the front of the machine. Two searchlights which irradiate the sample with various rays at certain intervals, are switched on automatically. The data on the composition of the soil, spectral analyses etc. determined in this connection are immediately transmitted back to the Earth.

Card 2/3

81684

Movable Laboratory "Luna I"

S/029/60/000/07/09/024
B013/B058

The machine has already stood tests successfully. "Luna - I" is now to undergo a total test and is then to be exhibited at the Exposition of Achievements of National Economy. The young female designers Nina Poleta and Valya Salomatova who work at the project of a lunar armored car under the supervision of Lyudmila Fokeyeva, are shown in the Fig (p. 16, upper part). There are 4 figures.

ASSOCIATION: Stantsiya yunykh tekhnikov Chelyabinskogo traktornogo zavoda (Station of Young Technicians of the Chelyabinsk Tractor Plant)

Card 3/3

STOLYAROV, Yu., inzh. TSARITSYN, G.

"Moon-1" self-propelled laboratory. Tekh.mol. 28 no.7:16-17 '60. (MIRA 13:8)

1. Direktor stantsii yunykh tekhnikov Chelyabinskogo traktornogo zavoda (for TSartisyn).

(Moon)

STOLYAROV, Yu.

"Contributribution of Young Technicians to their Country" contest continues. IUn.tekh. 5 no.3:37-38 Mr '61. (MIRA 14:6)

1. Rukovoditel' seksii tekhnicheskogo tvorchestva TSentral'nogo Soveta Vsesoyuznoy pionerskoy organizatsii imeni V.I.Lenina.
(Pioneers(Communist youth) (Technology--Competitions)